

Unit 2 Atomic Structure

Atomic Structure HW

1. What is the charge of an atom?
2. What subatomic particle is not affected by a magnetic field?
3. How many protons, electrons, and neutrons does an atom of ${}_{56}\text{Ba}^{138}$ have?
4. What element has 83 protons?
5. What is the charge of the nucleus?

6. Complete this chart:

Symbol	Atomic #	Atomic Mass	p	n	e
P	15	31	_____	_____	_____
Ti	_____	48	_____	_____	_____
_____	37	85	_____	_____	_____
Br	_____	80	_____	_____	_____

7. What is an isotope?

8. How did the discovery of isotopes alter Dalton's theory?

9. Describe Rutherford's experiment. How did this change Thompson's model of the atom?

10. What is the maximum number of electrons allowed in the:

S sublevel _____ P sublevel ____ D sublevel ____

11. How many orbitals are possible in each sublevel?

S ____ P ____ D ____ F ____

12. What is Hund's Rule?

Illustrate using Nitrogen as an example.

13. What is the maximum number of electrons possible in a dot formula for an atom?

14. Write the electron configuration, orbital notation, and electron dot diagram for these atoms:

Na, C, S, Cr, As, Sr, Ru, Sn, I

15. Draw the shape of the s orbital.

16. Draw the shape of the p orbital.